

DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES

DIRECTOR'S OFFICE

OCCUPATIONAL HEALTH STANDARDS--ETHYLENE OXIDE

Filed with the Secretary of State on

These rules take effect 15 days after filing with the Secretary of State

(By authority conferred upon the director of the department of consumer and industry services by section 24 of 1974 PA 154, MCL 408.1024, and Executive Reorganization Order Nos. 1996-1 and 1996-2, MCL 330.3101 and 445.2001)

R 325.51152, R 325.51162, R 325.51163, and R 325.51177 of the Michigan Administrative Code are amended as follows:

R 325.51152 Definitions.

Rule 2. As used in these rules:

(a) "Act" means Act No. 154 of the Public Acts of 1974, as amended, being §408.1001 et seq. of the Michigan Compiled Laws.

(b) "Action level" means a concentration of EtO of 0.5 parts EtO per million parts of air (0.5 ppm) calculated as an 8-hour, time-weighted average.

(c) "Authorized person" means any person specifically authorized by the employer whose duties require the person to enter a regulated area, any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring procedures under R 325.51176, or any other person authorized by the act.

(d) "Director" means the director of the Michigan department of ~~public health~~ **CONSUMER AND INDUSTRY SERVICES** or his or her designee.

(e) "Emergency" means any occurrence which is likely to or does result in an unexpected release of ethylene oxide, such as equipment failure, rupture of containers, or failure of control equipment.

(f) "Employee exposure" means exposure to airborne EtO which would occur if the employee were not using respiratory protective equipment.

(g) "Ethylene oxide" or "EtO" means a 3-membered ring organic compound, chemical formula C_2H_4O .

(h) "O.H. rule" means an occupational health rule adopted by reference pursuant to section 14 of the act or promulgated pursuant to section 24 of the act. Copies of these rules are available from the Michigan department of ~~public health~~ **CONSUMER AND INDUSTRY SERVICES**.

R 325.51162 Respirators; ~~use; selection; respiratory protection program required; replacement of air purifying respirator; fit testing.~~

Rule 12. (1) ~~An employer shall provide respirators, and ensure that they are used, where required by these rules. A respirator shall be used in all of the following circumstances:~~ **FOR EMPLOYEES WHO USE RESPIRATORS REQUIRED BY THESE RULES, THE EMPLOYER SHALL PROVIDE RESPIRATORS THAT COMPLY WITH THE REQUIREMENTS OF THESE RULES. RESPIRATORS MUST BE USED DURING ALL OF THE FOLLOWING:**

(a) ~~During the time~~ Periods necessary to install or implement feasible engineering and work practice controls.

(b) ~~In~~ Work operations, such as maintenance and repair activities, **AND** vessel cleaning, ~~or other activities,~~ for which engineering and work practice controls are not feasible.

(c) ~~In Work situations where~~ **OPERATIONS FOR WHICH** feasible engineering and work practice controls are not yet sufficient to reduce an employee's exposure to or below the ~~permissible exposure limits~~ **TWA.**

(d) ~~In~~ Emergencies.

(2) ~~If respiratory protection is required pursuant to the provisions of these rules, an employer shall select and provide, at no cost to an employee, the appropriate respirator from table 1 of this rule and shall ensure that the employee uses the respirator provided.~~ **THE EMPLOYER SHALL SELECT THE APPROPRIATE RESPIRATOR FROM TABLE 1.**

~~(3) An employer shall select a respirator that has been approved for use with EtO by the mine safety and health administration (MSHA) and the national institute for occupational safety and health (NIOSH) pursuant to the provisions of 30 C.F.R. part 11, March 24, 1978, which are adopted in these rules by reference. The provisions may be inspected at the Lansing office of the department of public health and may be purchased from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, or from the Michigan Department of Public Health, Post Office Box 30195, Lansing, Michigan 48909, at a cost as of the time of adoption of these rules of \$20.00.~~

~~(4) Table 1 reads as follows:~~

TABLE 1--MINIMUM REQUIREMENTS FOR RESPIRATORY PROTECTION FOR
AIRBORNE ETHYLENE OXIDE

Condition of use or concentration of airborne EtO (ppm)	Minimum Required Respirator
Equal to or less than 50	Full facepiece respirator with EtO approved canister, front- or back-mounted.
Equal to or less than 2,000	(a) Positive-pressure, supplied-air respirator equipped with full facepiece, hood, or helmet, or (b) Continuous-flow, supplied-air respirator (positive-pressure) equipped with hood, helmet, or suit.
Concentration above 2,000 or unknown concentration (such as in emergencies).	(a) Positive-pressure, self-contained breathing apparatus (SCBA) equipped with full facepiece, or (b) Positive-pressure, full facepiece, supplied-air respirator equipped with an auxiliary positive-pressure, self-contained breathing apparatus.
Firefighting	Positive-pressure, self-contained breathing apparatus equipped with full facepiece.
Escape	Any respirator described in this table.

Note: Respirators approved for use in higher concentrations are permitted to be used in lower concentrations.

~~(5) Where respiratory protection is required by these rules, an employer shall institute a respiratory protection program pursuant to the provisions of O.H. rule 3502(2), (4), (5), and (6).~~

(3) THE EMPLOYER MUST IMPLEMENT A RESPIRATORY PROTECTION PROGRAM IN ACCORDANCE WITH 29 CFR §1910.134 (b) TO (d), AND (f) TO (m), EXCEPT FOR (d)(1)(iii), AS ADOPTED BY REFERENCE IN R 325.60051.

R 325.51163 Protective clothing and equipment.

Rule 13. ~~(1) An employer shall select and provide, at no cost to the employee, appropriate protective clothing or other equipment in accordance with O.H. rule 3501 and Michigan department of labor rules for eye and face protection found in the general industry safety standards Part 33. Personal Protective Equipment, being §408.13301 et seq. of the Michigan Administrative Code, to protect any area of the body that may come in contact with liquid EtO or EtO in solution.~~

~~(2) An employer shall ensure that the employee wears the protective clothing and equipment provided.~~ **IF IT IS POSSIBLE THAT EMPLOYEES COULD HAVE EYE OR SKIN CONTACT WITH EtO OR EtO SOLUTIONS, THEN THE EMPLOYER MUST SELECT AND PROVIDE, AT NO COST TO THE EMPLOYEE, APPROPRIATE PROTECTIVE CLOTHING OR OTHER EQUIPMENT IN ACCORDANCE WITH OCCUPATIONAL HEALTH RULE R 325.6001 ET SEQ. TO PROTECT ANY AREA OF THE EMPLOYEE'S BODY THAT MAY COME IN CONTACT WITH THE EtO OR EtO SOLUTION, AND MUST ENSURE THAT THE EMPLOYEE WEARS THE PROTECTIVE CLOTHING AND EQUIPMENT PROVIDED.**

R 325.51177 Availability of rules and appendices; permission to reproduce.

Rule 27. (1) Appendices A to D to these rules are informational and are not intended to create any additional obligations not otherwise imposed or to detract from any existing obligations. Copies of these rules and related appendices entitled "Appendix A--Substance Safety Data Sheet for Ethylene Oxide," "Appendix B--Substance Technical Information for Ethylene Oxide," "Appendix C--Medical Surveillance Information for Ethylene Oxide," and "Appendix D--Sampling and Analytical Methods for Ethylene Oxide" are available to affected employers and employees at no cost from the Michigan Department of ~~Public Health, Division of Occupational Health, Post Office Box 30195~~ **CONSUMER AND INDUSTRY SERVICES, STANDARDS DIVISION, 7150 HARRIS DRIVE, P.O. BOX 30643, Lansing, Michigan 48909.**

(2) Permission to reproduce any of the documents specified in subrule (1) of this rule in full is granted by the director.